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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,175

02/18/2004

Michael R. Oldenburg

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1818

29293

7590

07/17/2006

FREUDENBERG-NOK GENERAL PARTNERSHIP
LEGAL DEPARTMENT
47690 EAST ANCHOR COURT
PLYMOUTH, MI 48170-2455

EXAMINER

PATEL, VISHAL A

ART UNIT

PAPER NUMBER

3673

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/781,175	Applicant(s) OLDENBURG, MICHAEL R.	
	Examiner Vishal Patel	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-10,12-15,17-20,22-32,34,36-39,41-44,46-49 and 51-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-10,12-15,17-20,22-32,34,36-39,41-44,46-49 and 51-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4-5, 7-10, 12-15, 17-18 and 22-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanda US. 5,649,710).

Regarding claim 1: Kanda discloses a seal for sealing a shaft, the seal comprising a sleeve constructed to be disposed generally coaxially around the shaft (sleeve 12) and comprising a parallel sleeve portion (sleeve portion that contacts the shaft 18) that is generally parallel to the longitudinal axis of the shaft and a radially extending sleeve portion (portion having 70) that extends generally radially away from the longitudinal axis of the shaft, an outer housing (housing that surrounds the sleeve) configured to generally surround the sleeve and comprising a parallel housing portion (portion 46 and 16) that is generally parallel to the longitudinal axis of the shaft, a radially extending housing portion that extends generally radially towards the longitudinal axis of the shaft (52), and a faceplate portion (66) that extends generally radially towards the longitudinal axis of the shaft, a first elastomeric protrusion (protrusion that extends from a base to the end of 70) extending generally between the radially extending sleeve portion and the faceplate portion and including a base (base that is attached to the radially extending sleeve

Art Unit: 3673

portion, the thickness of the protrusion is extending both radially toward the longitudinal axis of the shaft) and an end generally opposite the base (end of 70) and oriented radially towards the longitudinal axis of the shaft (the end extends radially towards the longitudinal axis of the shaft) and a second elastomeric protrusion (60) including a base secured to the housing and an end generally opposite the base, wherein the end is oriented generally radially away from the longitudinal axis of the shaft (the end of 60 is oriented generally radially away from the longitudinal axis of the shaft). All the protrusions that are on the radially extending housing portion have a base that is adjacent to a distal end of the radially extending housing portion.

As shown in the attached figure 2 by red and purple markings, the first protrusion 70 has a base and an end, where the end is generally opposite the base, the end is oriented radially towards the longitudinal axis of the shaft and between the radially extending sleeve and the faceplate portion.

Regarding claim 2: The base of the second elastomeric protrusion is secured to the radially extending housing portion (60 is attached to 52).

Regarding claim 4: The end of the second elastomeric protrusion is oriented generally both radially away from the longitudinal axis of the shaft and axially outward (60 is oriented generally axially outward of the longitudinal axis of the shaft).

Regarding claim 5: The seal having a third elastomeric protrusion including a base secured to the housing and an end generally opposite the base (any one of 76 or 74 or 82).

Regarding claim 7: The base of the third elastomeric protrusion is secured to the radially extending housing portion (the third elastomeric protrusion is secured to the radial portion of the housing).

Art Unit: 3673

Regarding claim 8: The third elastomeric protrusion (protrusion being 82) is oriented generally axially outward.

Regarding claim 9: The end of the third elastomeric protrusion is oriented generally axially inward (protrusion being 76).

Regarding claim 10: The seal having a forth elastomeric protrusion (protrusion 76) including a base secured to the housing and an end generally opposite the base.

Regarding claim 12: The base of the fourth elastomeric protrusion is secured to the radially extending housing portion.

Regarding claim 13: The end of the fourth elastomeric protrusion is oriented generally axially outwardly (the fourth elastomeric protrusion 76 is extended outwardly of the longitudinal axis of the shaft).

Regarding claim 14: The end of the fourth elastomeric protrusion is oriented generally axially inward (the fourth elastomeric protrusion is 74 and the third elastomeric protrusion is 82).

Regarding claim 15: The seal having a fifth elastomeric protrusion including a base secured to the housing and an end generally opposite the base (the fifth protrusion is 74).

Regarding claim 17: The base of the fifth elastomeric protrusion is secured to the radially extending housing portion.

Regarding claim 18: The end of the fifth elastomeric protrusion is oriented axially inward (74 is oriented axially inward).

Regarding claims 22-23: The first elastomeric protrusion has an acute undercut angle (the acute angle on the surface of 70 that faces shaft 18).

Art Unit: 3673

Regarding claim 24: The base of the first elastomeric protrusion is secured to the radially extending sleeve portion. The first elastomeric protrusion is extended axially and radially in relation to the longitudinal axis of the shaft.

Regarding claim 25: The first elastomeric protrusion is configured and oriented to guide inward traveling debris from the end of the first elastomeric protrusion toward the base of the first elastomeric protrusion.

3. Claims 1-2, 4-5, 7, 9, 10, 12, 14-15, 17, 18-20, 22-25, 26-32, 34, 36-39, 42-44, 47-49 and 51-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Heinzen (US. 5,201,529).

Regarding claim 1: Heinzen figure 1 (see attached figure 1), discloses a seal for sealing a shaft, the seal comprising a sleeve constructed to be disposed generally coaxially around the shaft (sleeve 211) and comprising a parallel sleeve portion (sleeve portion that contacts the shaft 3) that is generally parallel to the longitudinal axis of the shaft and a radially extending sleeve portion (portion having 212) that extends generally radially away from the longitudinal axis of the shaft, an outer housing (housing that surrounds the sleeve) configured to generally surround the sleeve and comprising a parallel housing portion (portion 16) that is generally parallel to the longitudinal axis of the shaft, a radially extending housing portion (below 11 that has a base of a protrusion) that extends generally radially towards the longitudinal axis of the shaft, and a faceplate portion (portion between 16 and 13 and having surface 16a) that extends generally radially towards the longitudinal axis of the shaft, a first elastomeric protrusion (221 that has acute angle on surfaces that face the shaft and housing portion 16) extending between the radially extending sleeve portion and the faceplate portion and including a base (base of 221 that is in red in the attached figure 1) and an end (end that are indicated in purple in the attached

Art Unit: 3673

figure) generally opposite the base (end of 221) and oriented radially towards the longitudinal axis of the shaft (the end extends radially towards the longitudinal axis of the shaft) and a second elastomeric protrusion (see attached figure) including a base secured to the housing and an end generally opposite the base, wherein the end is oriented radially away from the longitudinal axis of the shaft. All the protrusions that are on the radially extending housing portion have a base that is adjacent to a distal end of the radially extending housing portion (see attached figure).

As shown in the attached figure 1 by red and purple markings the base and end of protrusions, respectively.

Regarding claim 2: The base of the second elastomeric protrusion is secured to the radially extending housing portion.

Regarding claim 4: The end of the second elastomeric protrusion is generally both radially away from the longitudinal axis of the shaft and axially outward.

Regarding claim 5: The seal having a third elastomeric protrusion including a base secured to the housing and an end generally opposite the base (any one of protrusion that is not the second protrusion).

Regarding claim 7: The base of the third elastomeric protrusion is secured to the radially extending housing portion.

Regarding claim 9: The end of the third elastomeric protrusion is oriented generally axially inward.

Regarding claim 10: The seal having a forth elastomeric protrusion including a base secured to the housing and an end generally opposite the base.

Art Unit: 3673

Regarding claim 12: The base of the fourth elastomeric protrusion is secured to the radially extending housing portion.

Regarding claim 14: The end of the fourth elastomeric protrusion is oriented generally axially inward.

Regarding claim 15: The seal having a fifth elastomeric protrusion including a base secured to the housing and an end generally opposite the base.

Regarding claim 17: The base of the fifth elastomeric protrusion is secured to the radially extending housing portion.

Regarding claim 18: The end of the fifth elastomeric protrusion is oriented axially inward.

Regarding claim 20: The seal having a third elastomeric protrusion (protrusion above the distal end of 212 or 23) including a base secured to the radially extending sleeve portion and an end generally opposite the base, wherein the end is oriented both radially away from the longitudinal axis of the shaft and axially outwardly (see attached figure).

Regarding claims 22-23: The first elastomeric protrusion has an acute undercut angle (acute angle on both sides of 221).

Regarding claim 24: The base of the first elastomeric protrusion is secured to the radially extending sleeve portion. The first elastomeric protrusion is extended axially and radially in relation to the longitudinal axis of the shaft.

Regarding claim 25: The first elastomeric protrusion is configured and oriented to guide inward traveling debris from the end of the first elastomeric protrusion toward the base of the

Art Unit: 3673

first elastomeric protrusion (the first elastomeric protrusion is capable of being configured as claimed by applicant).

Regarding claim 26: see claims 1 and 20 above.

Regarding claim 27-28: see claims 22-23 above.

Regarding claim 29: see claim 24 above.

Regarding claim 30: see claim 25 above.

Regarding claims 31-32: see claims 2 and 4 above.

Regarding claim 34: The seal having an elastomeric coating on an outer surface of the housing and/or an outer surface of the sleeve (outer coating 14 and 22).

Regarding claim 35: see claim 21 above.

Regarding claim 36: The faceplate portion comprises a parallel faceplate portion (parallel portion 16 or 13) that is generally parallel to the longitudinal axis of the shaft and a front cover portion (curved portion at an end of 16) that extends generally radially toward the longitudinal axis of the shaft from the parallel portion.

Regarding claim 37: The faceplate portion further comprises a third portion (portion that has surface 16a) that extends generally radially towards the longitudinal axis of the shaft from the parallel faceplate portion.

Regarding claims 38-39, 42-44, 47-49 and 51-52: The protrusions that area attached to the housing.

Regarding claim 53: 1st protrusion that is 221, second protrusion that is at the distal end of 212 and third protrusion that is 23. All the protrusion are attached to the sleeve

Art Unit: 3673

Regarding claims 54-57: The faceplate having an axially inner surface (16a), the first elastomeric protrusion extending between the radially extending sleeve portion and the axially inner surface of the faceplate. The first elastomeric protrusion end contacts the axially inner surface of the faceplate.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, 13, 41 and 46 rejected under 35 U.S.C. 103(a) as being unpatentable over Heinzen in view of Kanda.

Heinzen discloses the invention substantially as claimed above but fails to disclose that an additional protrusion on the housing to have four protrusions on the housing. Kanda discloses to have a protrusion (82) that extends outwardly that is between two other protrusions (60 and 76). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure to seal of Heinzen to have an additional protrusion that is connected to the housing and extending outwardly as taught by Ganda, to provide a high degree of dirt exclusion function by the seal.

Response to Arguments

6. Applicant's arguments filed 6/14/06 have been fully considered but they are not persuasive.

Art Unit: 3673

Applicants' argument against Ganda that the first protrusion is between the sleeve and the face plate is not persuasive because as shown in the attached figures the protrusion is between the face plate and the radial portion of the sleeve. Furthermore as shown in the figures the first protrusion is extending toward the longitudinal axis of the shaft (see attached figures).

Applicants' argument for claims 26+ are moot in view of the new rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is 571-272-7060. The examiner can normally be reached on 6:30am to 8:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP
July 10, 2006

A handwritten signature in black ink, appearing to read 'Vishal Patel', with a stylized flourish at the end.

Vishal Patel
Primary Examiner
Tech. Center 3600

FIG. 1

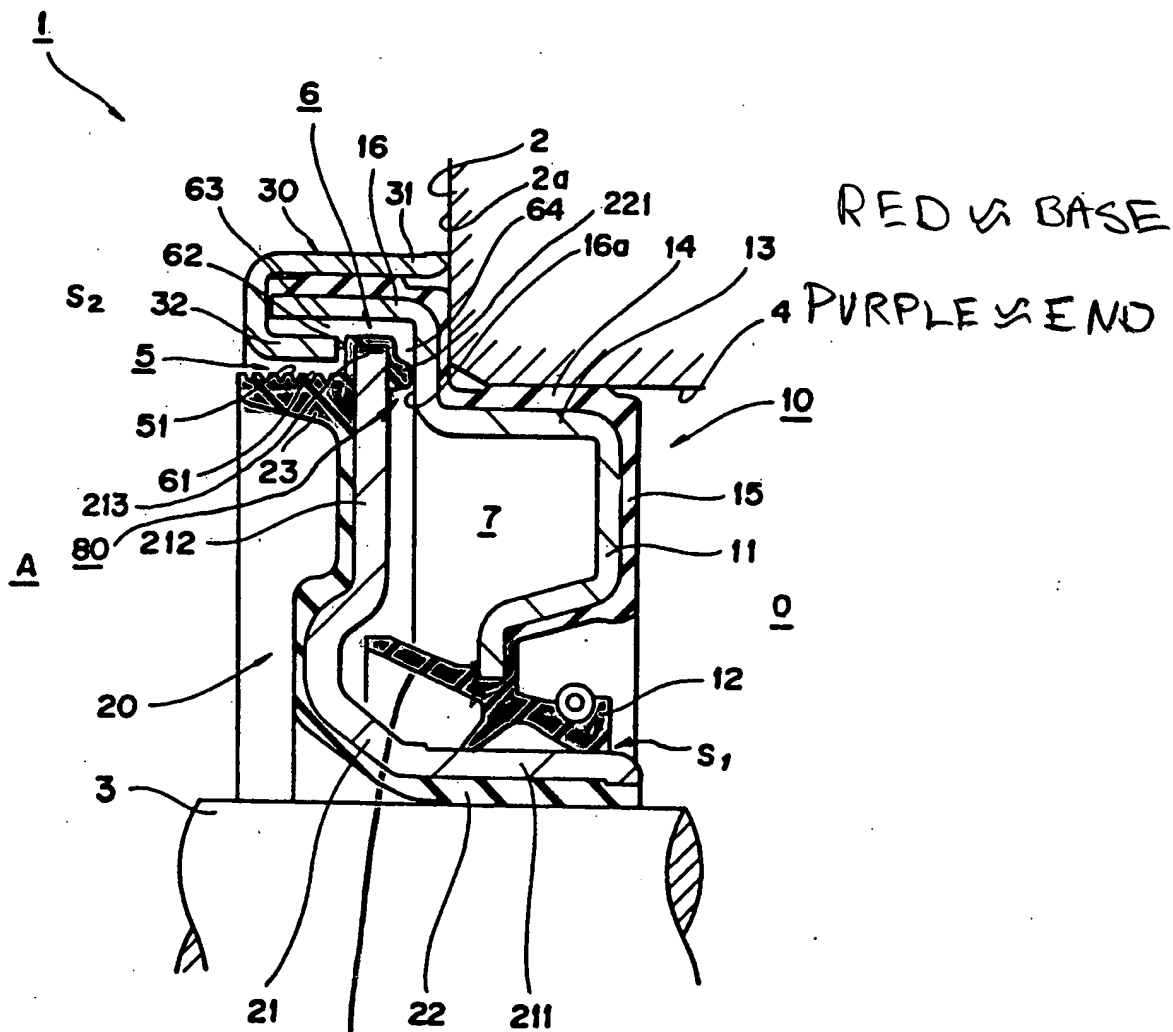
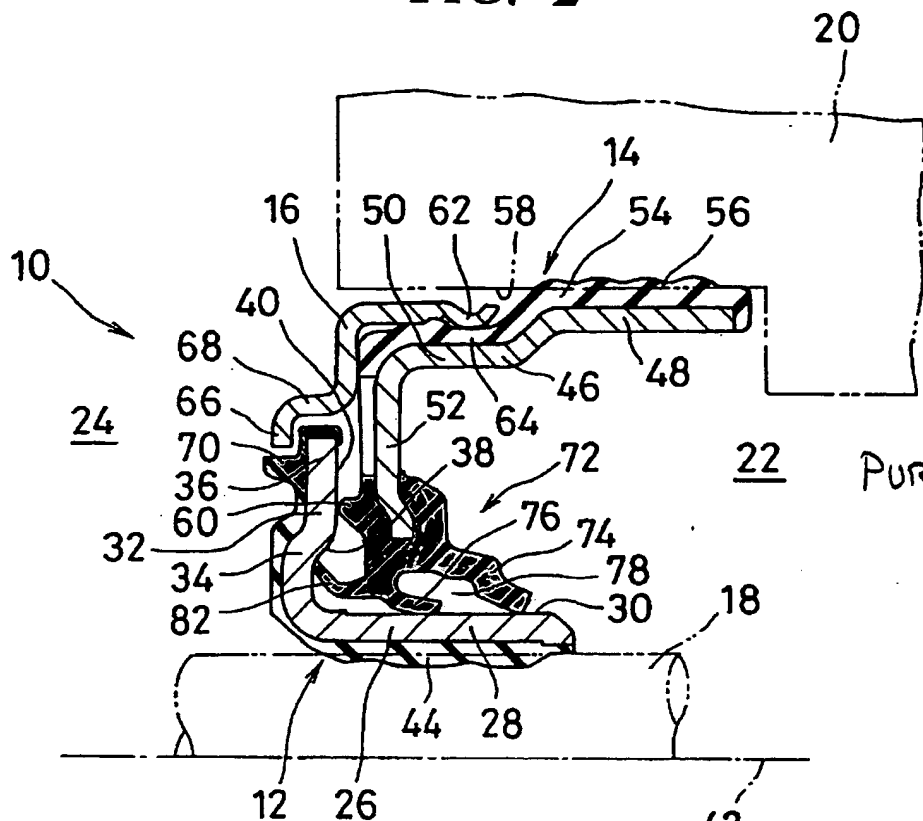


FIG. 2



RED 1st Protrusion Base

PURPLE 1st Protrusion End that Extends Towards The Longitudinal Axis of The Shaft.

RED BASE
PURPLE END

FIG. 3

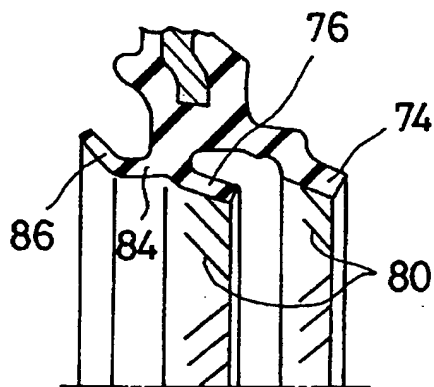


FIG. 5

